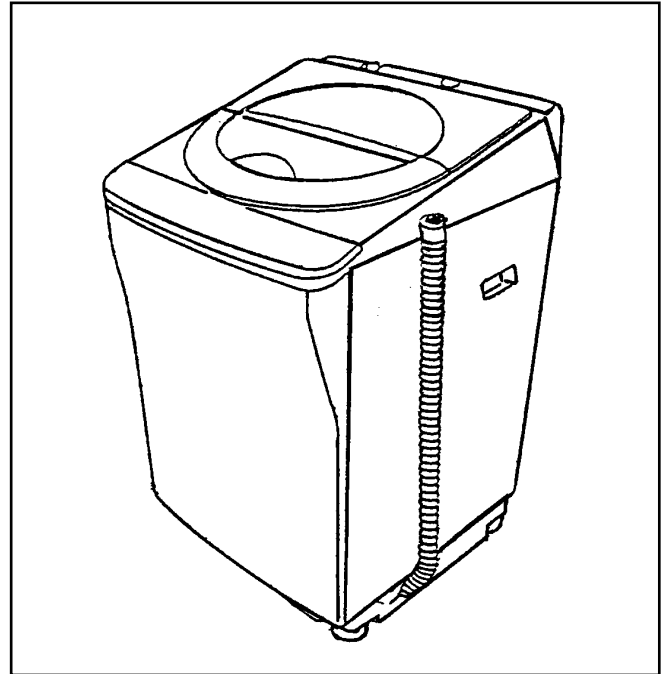


## SERVICE MANUAL

## Automatic Washer

## ASW-U1100T (MALAYSIA)



Product Code No .

300-849-85    240V    50 Hz    M3    H

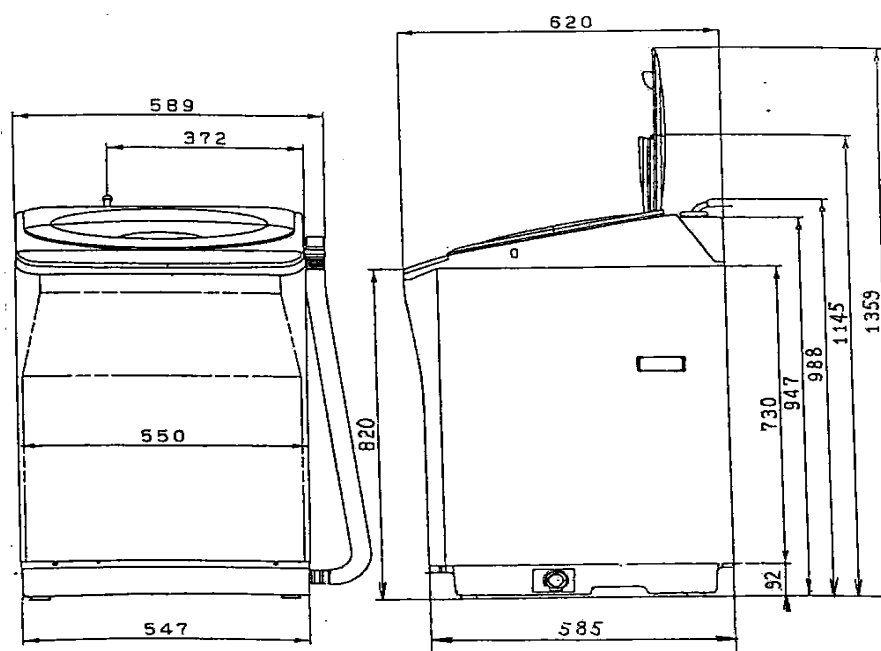
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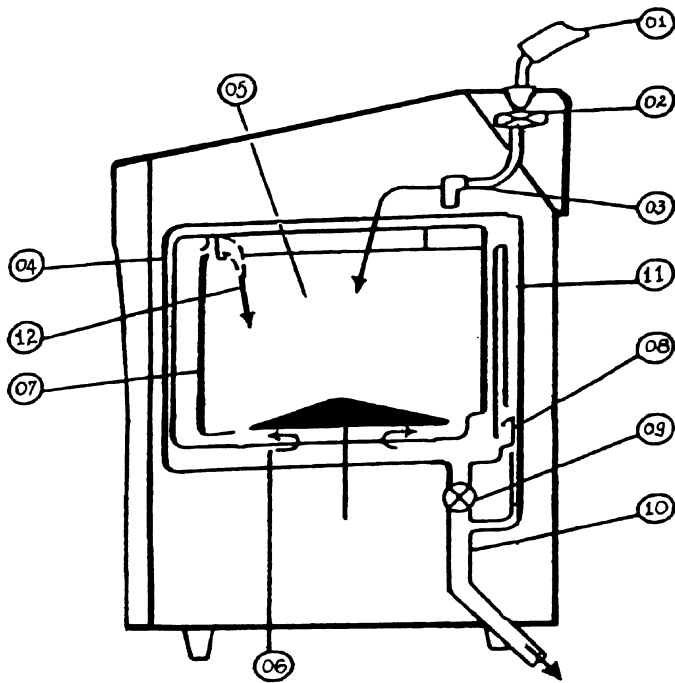
## 1. Specifications

ITEM		SPECIFICATION	ITEM	SPECIFICATION
Overall dimensions		589(W) x 620(D) x 988(H)	Motor AM -V14JM	4 Poles- class E
Net weight		43 kg	Capacitor Ass'y	8.0μF 444 V.AC
WASH	Washing method	Whirlpool	Pulsator Pulley	Outer diameter: Ø110 mm
	Driving system	V-Belt + gear driving	Motor Pulley	Outer diameter: Ø 50 mm
	Pulsator Revolution Speed	130 r.p.m	V- Belt	Type: M-20
	Pulsator Diameter	Ø 380mm (5 blades)	Gear box	Rate of Reduction Gear: 1/6.4
SPIN	Spin-dry method	Vertical axis type, Centrifugal Spin-Dry	Wash Load sensor	Signal from Wash Motor.
	Driving system	V-Belt driving	Magnetic Valve JWV-203G/ 220-240V	Required water pressure: 0.3-10 Kg.f/cm <sup>2</sup> Max water flow: 25 L/min.
	Spin Tub revolution speed	840 r.p.m	Valve Ass'y	Driven by Magnetic Coil
	Spin Tub Drum dimension	Ø 460mm x 439mm(H)	Fuse Ass'y	250V- 5A
SWITCH	Safety Switch	Operates while opening Washer Lid or serious unbalance.	Response Switch KPS-59-C	Automatically select one of 4 water levels.
	Power switch	Relay system	Accessories	<ul style="list-style-type: none"> <li>• Instruction Manual</li> <li>• Drain Hose</li> <li>• Feed Hose Ass'y with Magic Joint</li> <li>• Hose Band</li> <li>• Bottom Cover</li> </ul>
Printed circuit board		IC; Transformer; Buzzer; Push Switch; Triac ...		
Standard water consumption		62L		
Standard per-cycle water consumption		134L		
Child safety mode		The washer will stop when the Washer Lid is opened after setting this mode		
			Power source	240V-50Hz
			Power consumption	410W
			Washing time	Normal program: 43 min.
			Neuro and Fuzzy	The most suitable program is automatically selected according to the type of fabric and the volume of laundry.

## 2. Outer Dimensions (unit: mm)



### 3. Water course diagram



1	Feed Hose Ass'y
2	Magnetic Valve
3	Pour Inlet
4	Outer Tub Drum
5	Spin Tub Drum
6	Spin Tub Boss
7	Circulate Hose
8	Air Trap Hose
9	Drain Valve
10	Drain Hose
11	Overflow Hose
12	Lint Filter Ass'y

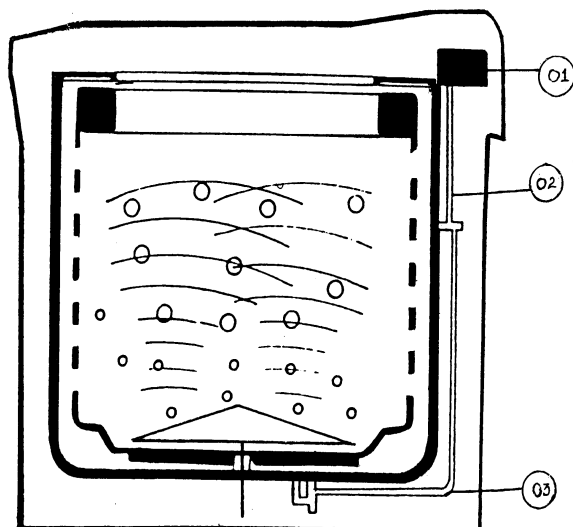
**Water supply :** Magnetic Valve → Pour Inlet → Spin Tub Drum / Outer Tub Drum

**Drainage :** Spin Tub Drum / Outer Tub Drum → Drain Valve → Drain Hose

**Overflow :** Overflow Gate → Overflow Hose → Drain Valve → Drain Hose

**Circulation :** Spin Tub Drum → Outer Tub Drum → Spin Tub Drum bottom → Circulate Hose holes  
Spin Tub Drum ← Lint Filter Ass'y

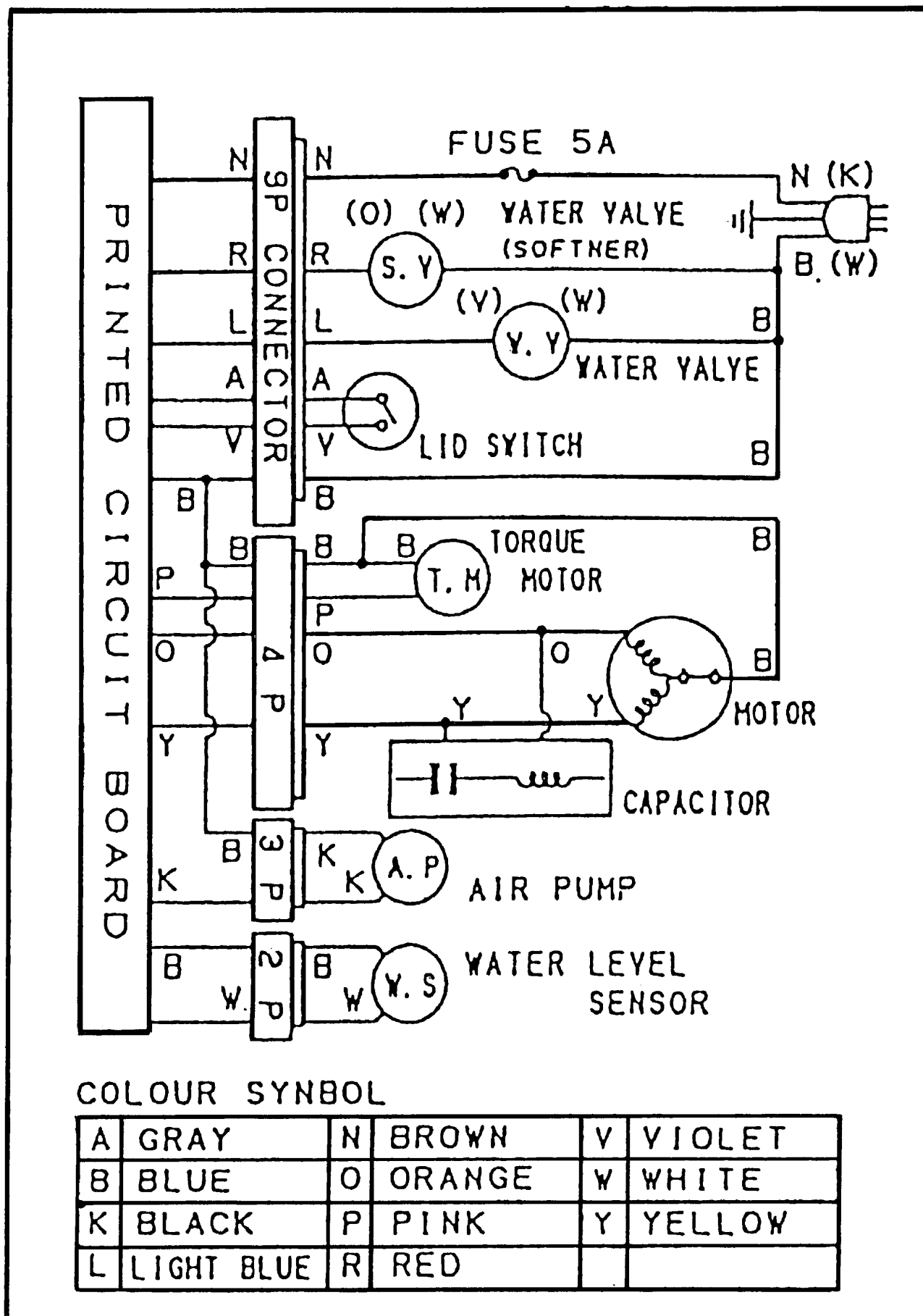
### ♦ Air course diagram



01	Pump Ass'y
02	Hose joint Ass'y
03	Hose joint Ass'y

Pum Ass'y → Hose Joint Ass'y  
Spin Tub Drum ← Outer Tub Drum

#### 4. Electric circuit diagram



For the purpose of safety, please use only designated parts.

## 5. Method of operation

### ◆ Name and function of buttons on control panel:

When you press those buttons, the setting program and indicators (LED) will change alternately.

BUTTON	SETTING PROGRAM	INDICATION OF LED
<b>POWER SWITCH</b>	To turn the power ON and OFF alternately.	When you press the power switch to turn power ON, NORMAL indicator will light up. When power is turned off, NORMAL indicator will black out.
<b>START/PAUSE</b>	Start or temporarily stop wash operation.	When you press the "START/ PAUSE" button to start, the indicator of the first process will blink. When pausing, LED indicator will light up.
<b>ONE TOUCH SELECT</b>	Choose the desired washing program : Normal, Heavy Duty, Custom, Blanket, Dry Care.	Normal → Heavy Duty → Custom → Blanket → Dry Care
<b>SELECT/ SET</b>	Used to set a variety of wash programs.  To preset the finish time, washing time, rinsing mode and spinning time.	Setting Washing time: OFF → 1 → 12 Setting Rinsing mode: 0 → 1(water saver) → 1.(overflow) → 2(twice water saver) → 3.(3times overflow) ← 3(3times water saver) ← 2.(once shower + once overflow) Setting Spinning time: 0 → 10
<b>WATER LEVEL</b>	Select the appropriate water level that matches the load volume. When this button pressed, water level will be changed alternately: HIGH, MED, LOW 2 , LOW 1.	Normal/ Heavy Duty/ Custom course: HIGH → MED → LOW 2 → LOW1 Blanket: HIGH → MED Dry Care: MED → HIGH → LOW2
<b>OPTION</b>	Used to set a variety of Soak program and Soft Spin program	While selecting the option function, the indicator will light up. If the option function is not selected, the indicator blacks out.
<b>CHILD SAFETY</b>	Press the water level button for 4 seconds to choose desired child safety.	When this function is selected, Washing course will stop if Washer Lid is opened 5 seconds or more during washing.

### ◆ Signals of buzzer:

Buzzer will sound in the following cases :

The button is pressed	: Buzzer sounds beep in 0.6 second.
Washing cycle end	: Buzzer sounds with beep tone ON -0.5 second & OFF- 0.5 second for 6 seconds.
Have a trouble	: Buzzer sounds with beep tone ON -0.3 second & OFF -0.3 second in 16 times.

### ◆ How to cancel the cycle end buzzer :

- Deleting : Turn on the POWER SWITCH and hold down the START / PAUSE button for 4 seconds.
- Resetting : Turn on the POWER SWITCH and hold down the START / PAUSE button for 4 seconds.
- In both cases, buzzer will sound to indicate that the program has been set.

### ◆ About Automatic turn off function :

- If you leave the washer turned on without starting the operation, the Power Switch will turn off automatically after 10 minutes.
- When washing operation finished, the POWER SWITCH will turn off in 5 seconds automatically.

## 6. Contents of fully Automatic Washing program

PROGRAM	WASH	RINSE	SPIN	TOTAL
<b>NORMAL</b>	*8'-10' Depending on the Wash load and the kind of laundry.	Once shower. 4' Water saver.	*5'-6'	<b>40'</b>
<b>HEAVY DUTY</b>	*11'-13' Depending on the Wash load and the kind of laundry.	3' Twice Overflow	*6'-7'	<b>52'</b>
<b>CUSTOM</b>	*6'-10' Depending on the Wash load and the kind of laundry.	Same as the normal course.	*7'	<b>49'</b>
<b>BLANKET</b>	12'	3' Twice Overflow	8'	<b>50'</b>
<b>DRY CARE</b>	6'	1.5' Twice Overflow	2'	<b>34'</b>
<b>SOAK</b>	45' Soak	*8'-10' Same as the normal course.	*5'-6'	<b>85'</b>

- The above chart indicates the standard time for each process.
- For Data marked with (\*), washing time, spinning time, rinsing method will change according to the signals of sensors.

### ◆ Spending time of Washing program:

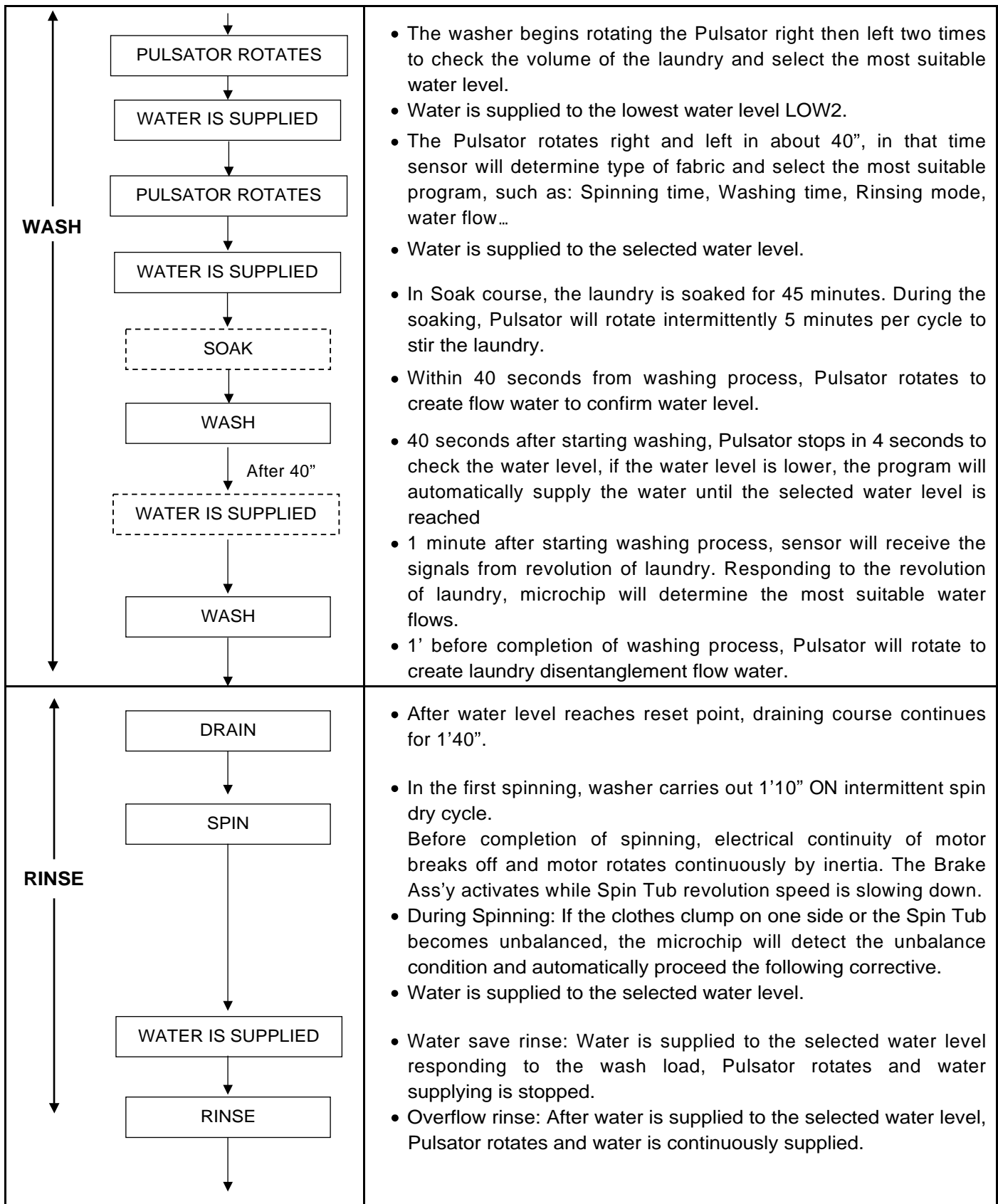
PROCESS COURSE	WASH			RINSE1				RINSE2				SPIN		TOTAL
	WATER SUPPLY	SOAK	WASH	WATER DRAIN	SPIN	WATER SUPPLY	RINSE	WATER DRAIN	SPIN	WATER SUPPLY	RINSE	WATER DRAIN	SPIN	
<b>NORMAL</b>	4'08"	-	10'	2'	3'30"	-	1'30" Shower	-	3'30"	3'36"	4' Water saver	2'	6'	<b>40'14"</b>
<b>HEAVY DUTY</b>	4'08"	-	13'	2'	3'30"	3'36"	3' Overflow	2'	3'30"	3'36"	3' Overflow	2'	7'	<b>51'20"</b>
<b>BLANKET</b>	4'08"	-	12'	2'	3'30"	3'36"	3' Overflow	2'	3'30"	3'36"	3' Overflow	2'	8'	<b>50'20"</b>
<b>DRY CARE</b>	3'56"	-	6'	2'	2'	3'36"	1'30" Overflow	2'	2'	3'36"	1'30" Overflow	2'	2'	<b>32'08"</b>
<b>SOAK</b>	4'08"	45'	10'	2'	3'30"	-	1'30" Shower	-	3'30"	3'36"	4' Water saver	2'	6'	<b>85'14"</b>

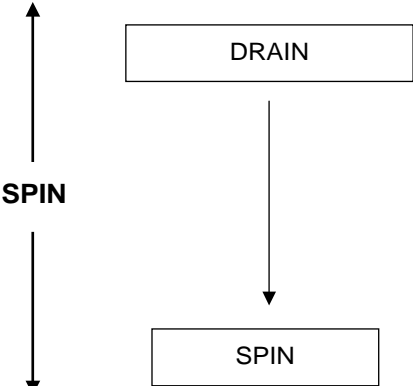
- Spending time for water supply and water drain depends on water pressure and draining condition. Generally, spending time for water supply is about 4'08" (for High level), and for water drain is about 2'.
- Standard time of Custom course is the same as of Normal course.
- Drainage: After the water is left at the RESET water level (level of water level sensor gets reset) the spending time of draining is about 1'.
- Restarting Function: Washer can operate until the end of wash cycle interrupted by power failure if the electric power returns within 4 hours.
- Normal and Soak course has been programmed with Shower rinsing. If the water flow volume is less than 5l/min., the washing machine automatically adds the water saver rinsing, so the remaining time will be changed from 11 to 23 minutes.

## 7. Operation of fully Automatic Washing program

### ♦ NORMAL, HEAVY DUTY, CUSTOM, SOAK Course:

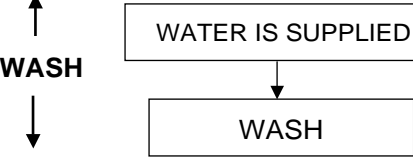
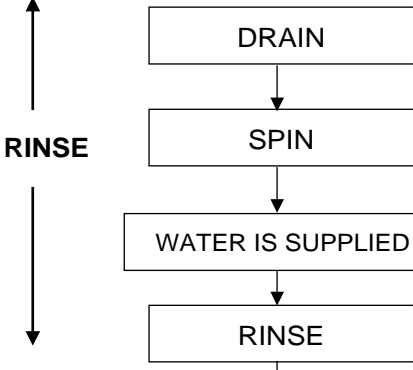
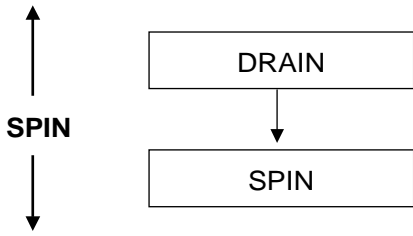
- Turn on the power switch (ON/ OFF)
- Load the laundry into the washer
- Press the ONE TOUCH SELECT to select the washing course
- Press the START/ PAUSE button



	<ul style="list-style-type: none"> <li>• After water level reaches reset point, draining course continues for 1'40".</li> <li>• Before completion of spinning, electrical continuity of motor breaks off and motor rotates continuously by inertia. The Brake Ass'y activates while Spin Tub revolution speed is slowing down.</li> <li>• During Spinning: If the clothes clump on one side and/ or the Wash/ Spin Tub becomes unbalanced, the microchip will detect the unbalance condition and automatically proceed the following corrective.</li> <li>• Same as the operation of the Rinsing course, Spin Tub Drum will rotate intermittently. However, while selecting the soft spin function, the operation of spinning course is different.</li> </ul>
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♦ **BLANKET Course:**

- Turn on the power switch (ON/ OFF).
- Load the laundry into the washer.
- Press the ONE TOUCH SELECT to select the BLANKET course for big size laundry.
- Press the START/ PAUSE button

	<ul style="list-style-type: none"> <li>• Water is supplied to HIGH water level.</li> <li>• Depending on the size of laundry, for best results, use MED water level</li> <li>• Pulsator will rotate and select the suitable water flow.</li> </ul>
	<ul style="list-style-type: none"> <li>• After water level reaches reset point, Draining course continues for 1'40".</li> <li>• Water is supplied to the selected water level.</li> <li>• Intermittent spin cycle: 1'10" ON.</li> <li>• Continuous spin cycle: 2'20" ON.</li> <li>• During spinning, if unbalance condition occurs, safety switch will activate.</li> <li>• Water is supplied to HIGH level.</li> <li>• Overflow rinse: Twice overflow</li> </ul>
	<ul style="list-style-type: none"> <li>• After water level reaches reset point, Draining course continues for 1'40".</li> <li>• Intermittent spin cycle: 1'10" ON.</li> <li>• Continuous spin cycle: 2'20" ON.</li> <li>• During spinning, if unbalance condition occurs, safety switch will activate.</li> </ul>

❖ **Special usage:**

Press the <b>WATER LEVEL</b> button before pressing <b>START/ PAUSE</b> button.	The washer will operate with manual set water level.
Pressing the START/ PAUSE button while there have been water in Spin Tub Drum. <ul style="list-style-type: none"> <li>• Water level in the Spin Tub Drum is lower than LOW1 level.</li> <li>• Water level in the Spin Tub Drum is higher than LOW1 level.</li> </ul>	<ul style="list-style-type: none"> <li>⇒ The washer will operate normally</li> <li>⇒ The washer will operate with:               <ul style="list-style-type: none"> <li>• Water level: HIGH</li> </ul> </li> </ul>



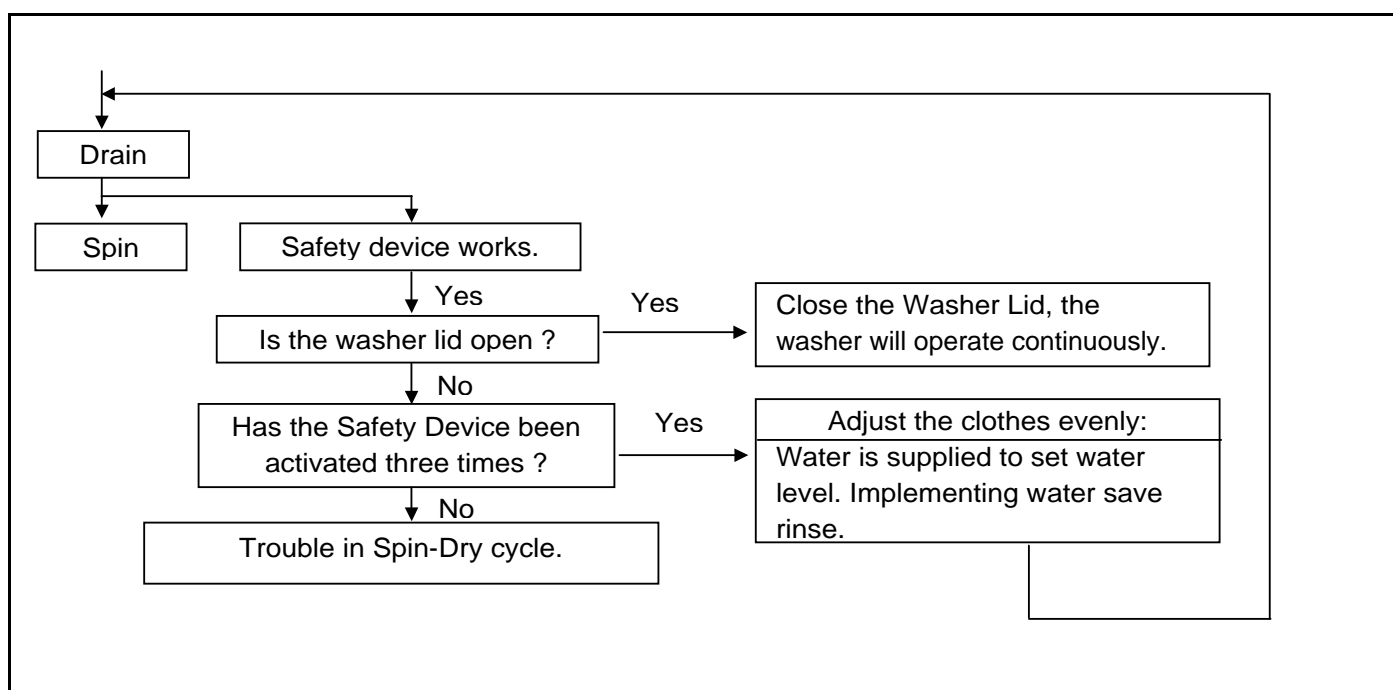
♦ **DRY CARE Course:**

- Turn on the power switch (ON/ OFF).
- Load the laundry into the washer.
- Press ONE TOUCH SELECT to select the Dry Care course.
- Press the START/ PAUSE button.

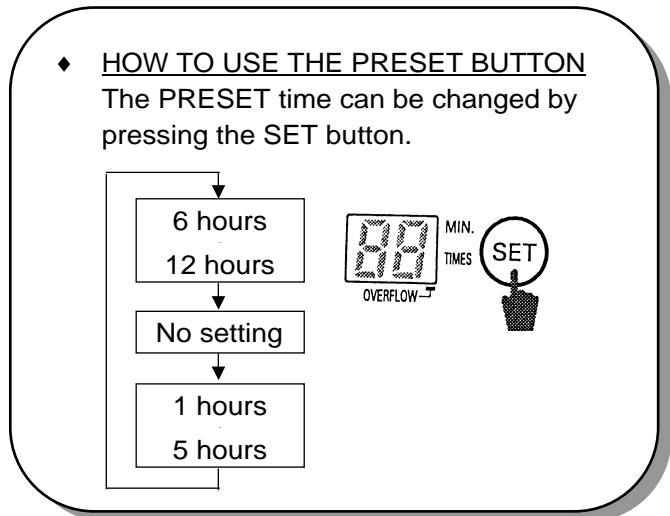
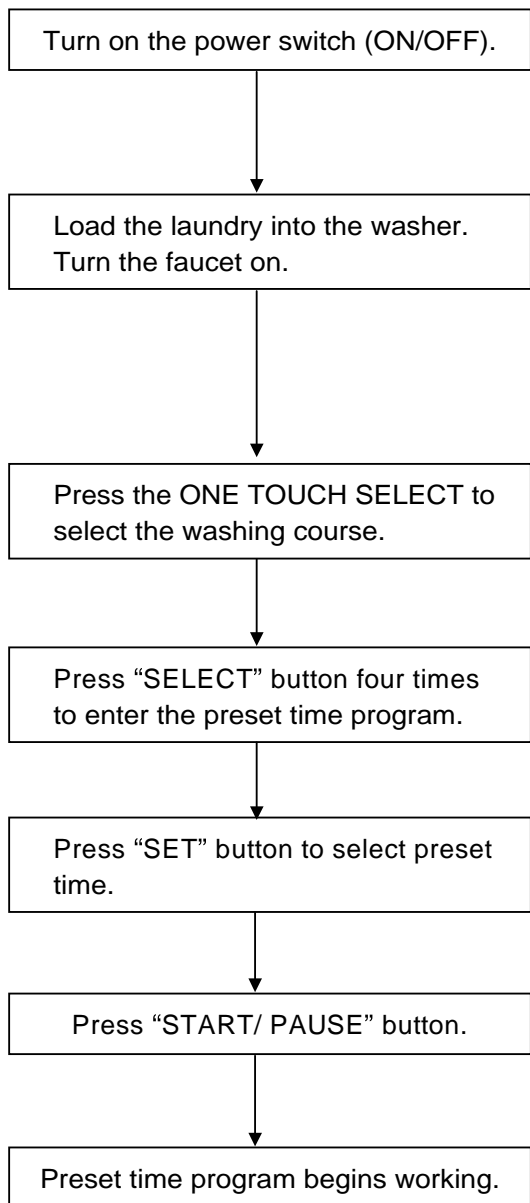
<p>↑</p> <p><b>WASH</b></p> <p>↓</p> <pre> graph TD     A[WATER IS SUPPLIED] --&gt; B[WASH]     B --&gt; C[ ]           </pre>	<ul style="list-style-type: none"> <li>• Water is supplied to MED level.</li> <li>• Depending on the volume of laundry, for best results, use LOW2, HIGH water level.</li> <li>• Pulsator will rotate and select the suitable water flow responding to DRY CARE course.</li> </ul>
<p>↑</p> <p><b>RINSE</b></p> <p>↓</p> <pre> graph TD     A[DRAIN] --&gt; B[SPIN]     B --&gt; C[WATER IS SUPPLIED]     C --&gt; D[RINSE]     D --&gt; E[ ]           </pre>	<ul style="list-style-type: none"> <li>• After water level reaches reset point, draining course continues for 1'40"</li> <li>• Water is supplied to the selected water level.</li> <li>• Intermittent spin cycle: 1'10" ON.</li> <li>• Continuous spin cycle: 50" ON.</li> <li>• During spinning if unbalance condition occurs, safety switch will activate.</li> <li>• Water is supplied to MED level.</li> <li>• Overflow rinse: Twice overflow.</li> </ul>
<p>↑</p> <p><b>SPIN</b></p> <p>↓</p> <pre> graph TD     A[DRAIN] --&gt; B[SPIN]     B --&gt; C[ ]           </pre>	<ul style="list-style-type: none"> <li>• After water level reaches reset point, draining continues 1'40".</li> <li>• Intermittent spin cycle: 1'10" ON.</li> <li>• Continuous spin cycle: 50" ON.</li> <li>• During spinning if unbalance condition occurs, safety switch will activate.</li> </ul>

♦ **The safety device activation and load automatically adjusting program:**

During Spin-Dry cycle in Rinse process or Spin process, if the safety device works, the washer will automatically stop Spin-Dry cycle and adjust the balance of wash load.



## 8. Preset time program



- To select a wash course
- The selected preset time indicator will blink on.
- When pressing the SET button, the preset time indicator is changed from 1-12 (hours).
- While the preset time program is selected, all indicators except the PRESET (hour) indicator will be automatically turned off in about 1 minute.

- During presetting washing program, if the SET button is pressed, the indicator will light on to show the content of preset washing program.
- During presetting washing program, only SET button is affected when pressed.
- On the Control Plate, the preset time indicator will blink on from 1-12 hours.
- In case, to cancel the preset time, turn power switch off.
- It is impossible to use the PRESET function on DRY CARE course.

## 9. Indication and judgment of troubles

### ◆ Trouble judgment :

During operating, when trouble occurs, microchip will judge the cause and stop the present operation. Water level indicator blinks on and off and buzzer sounds.

Troubles	Judgment	Check
Abnormal condition of spinning	The Safety Switch works 3 times continuously during Spin cycle.	Spin Tub is in unbalance, the laundry leant to one side.
Abnormal condition of draining	During draining, the water level doesn't go down below the reset point within 8 minutes.	<ul style="list-style-type: none"> <li>The Drain Hose hasn't been put down from the washing machine.</li> <li>Drain Hose is dented.</li> <li>The Drain Hose is clogged.</li> </ul>
Abnormal condition of water supply	During supplying water, water level does not reach to LOW 1 level within 15 minutes.	<ul style="list-style-type: none"> <li>The faucet isn't turned on.</li> <li>Water pressure is very low.</li> <li>Water source is cut off.</li> <li>Water supply valve is clogged.</li> </ul>
Abnormal condition of water level sensor	The frequency of water level sensor is higher than 73.728 KHz or lower than 8.192 KHz.	<ul style="list-style-type: none"> <li>Water level sensor is defective.</li> <li>Connector is poorly connected.</li> </ul>
Abnormal condition of the load sensor	During rotating of pulsator, the pulse which is counted by motor is low than 2.	<ul style="list-style-type: none"> <li>Motor rotated badly.</li> <li>Tension strength of V-Belt is out of specification.</li> </ul>

### ◆ Abnormal information:

- Buzzer sounds with 0.3 seconds ON - 0.3 seconds OFF cycles in 16 times.
- Depending on the kind of troubles, the indicators will blink on as bellow:

Kind of Trouble	The blinking of indicators					
	U4	U3	U5	E1	E2	EA EC
Spinning	○	○				
Drain					○	
Water supply				○		
Washing (Child safety mode)			○			
Other troubles						○

### ◆ Trouble release :

Trouble Indication	Where to check
U4	<ul style="list-style-type: none"> <li>Close the Washer Lid.</li> </ul>
U3	<ul style="list-style-type: none"> <li>Check whether the laundry is clumped on one side of the Wash/ Spin Tub or not.</li> <li>Check whether the Washer is on the level surface or not.</li> </ul>
U5	<ul style="list-style-type: none"> <li>Check whether the Child safety mode is set or not. Close the Washer Lid.</li> </ul>
E1	<ul style="list-style-type: none"> <li>Turn the water supply faucet on.</li> <li>Check whether the water supply has been cut off or not.</li> <li>Check whether the metal filter of the Water Inlet is clogged or not.</li> <li>Check whether the washer has been freezing or not.</li> </ul>
E2	<ul style="list-style-type: none"> <li>Put down the Drain Hose from the hookhole.</li> <li>Check whether there is anything wrong with the Drain Hose or not.</li> <li>Check the Drain Hose for any obstructions.</li> <li>Check whether the Drain Hose is clogged with lint or not.</li> <li>Check whether the Drain Hose rises too high (more than 15 cm) off the ground or not.</li> <li>Check whether the Drain Hose is too long (longer than 3m) or not.</li> <li>Check whether the diameter of the Drain Hose is too small or not.</li> </ul>
EA EC	<ul style="list-style-type: none"> <li>Press the START/ PAUSE button or turn the POWER SWITCH.</li> </ul>

## 10. Inspection mode for service man

### ◆ **Method to enter service inspection mode:**

- (1) While holding the PROGRAM button down at pressed state, press the POWER SWITCH button.
- (2) Hold the program button down at pressed state, press the "START/ PAUSE" button three times.

### ◆ **The operation of inspection mode:**

- (1) Press "PROGRAM" button to set the inspection mode.
- (2) Press only "START/ PAUSE" button to start the inspection mode.

Setting course	Inspection	Confirmation	Purpose
<b>NORMAL</b>	The motor rotates clockwise.	Does Pulsator rotate clockwise ?	Check the operation of Motor, Bearing Ass'y and PCB.
<b>HEAVY DUTY</b>	The motor rotates counter clockwise.	Does Pulsator rotate counter clockwise ?	Check the operation of Motor, Bearing Ass'y and PCB.
<b>CUSTOM</b>	The drain valve operates.	Does drain valve open ? Is water drained ?	Check the operation of Magnetic Coil and Drain valve.
<b>DRY CARE</b>	The Magnetic Valve operates.	Does Magnetic Valve open ? Is water supplied ?	Check the operation of Magnetic Valve and PCB.

### ◆ **Method to enter child safety inspection mode :**

- (1) Turn power switch on.
- (2) Press and hold the WATER LEVEL for 4 seconds or more until sounds beep and the indicator of CHILD SAFETY will light on.

### ✓ **NOTE:**

Press the WATER LEVEL button again for 4 seconds or more until sounds beep and indicator of CHILD SAFETY will light off in order to delete CHILD SAFETY inspection mode.

## 11. Care of service :

**Disconnect the power cord during servicing for your safety.**

### ◆ Removing Front Panel

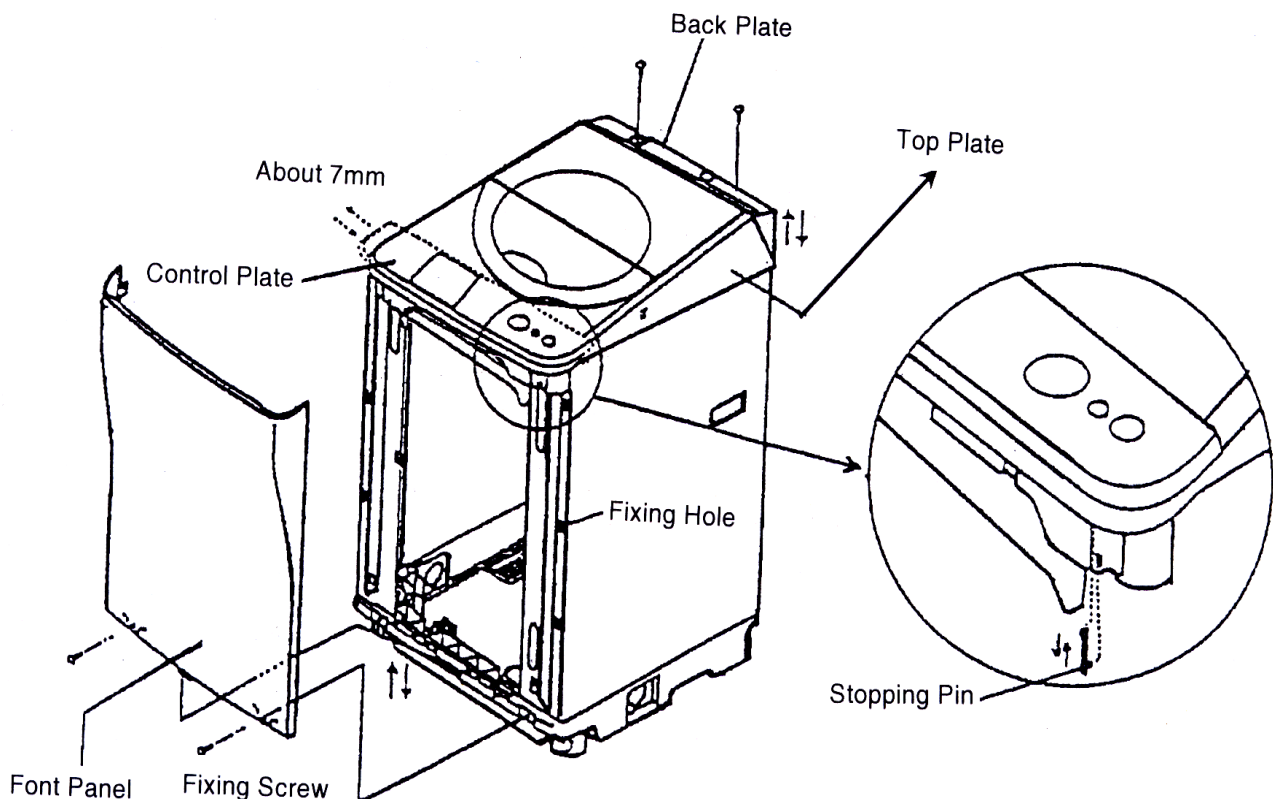
- (1) Take two fixing screws out.
- (2) Pull Front Panel down and lift it up for taking out.
- (3) Reverse the order of the steps above to put the unit back.

### ◆ Replacing Control Plate and Printed Circuit Board

- (1) Follow the steps (1) to (2) of the "Replacing Front Panel".
- (2) Pull stopping pin down for taking out.
- (3) Slide the control plate approximately 7mm to the left.
- (4) Hold both edges of the Control Plate, lift and tilt it towards back.
- (5) Take out 6 screws that are holding the PCB, and remove the 9P, 4P, 3P and 2P connectors before removing the PCB.
- (6) Reverse the order of the steps above to put the unit back.

### ◆ Removing Back Plate

- (1) Remove the Cap on drainage and then remove screws.
- (2) Hold both ends of the Back Plate, lift and remove it.
- (3) Once the Back Plate is removed, the water supply valve and safety switch can be replaced.
- (4) When the parts are replaced, reverse the order of the steps above to put the unit back.



#### ◆ **Replacement of Top Plate**

- (1) Follow the steps (1) to (2) of “Replacing Font Panel”.
- (2) Follow the steps (2) to (4) of “Replacing Control Plate”.
- (3) Follow the steps (1) to (3) of “Removing Back Plate”.
- (4) Take out 4 screws that are holding Top Plate and Frame.
- (5) Tilt the Top Plate backward during lifting it up.
- (6) Once the Top Plate is removed, the Response Switch, Water Pump can be replaced.
- (7) Reverse the order of the steps above to put the unit back.

##### ✓ **CAUTION:**

1. Do not bend the lever of safety device when opening the Top Plate, otherwise operating angle of device will be out of specification.
2. As wires for connecting control parts are placed underneath the Top Plate, after removing the Top Plate and reconnecting wires, make sure that the wires are not pinched or stuck between Frame and the Top Plate.

#### ◆ **Removing Washer Lid**

- (1) Open the washer lid.
- (2) Remove the washer lid during pushing the shaft center of hinge at left, using a plate blade screwdriver.
- (3) Move the top lid to the left side and lift it up.
- (4) Remove the Hinge Spring from the Washer Lid.
- (5) Follow the above steps reversely when you want to assemble them again.

##### **Handle of the washer lid**

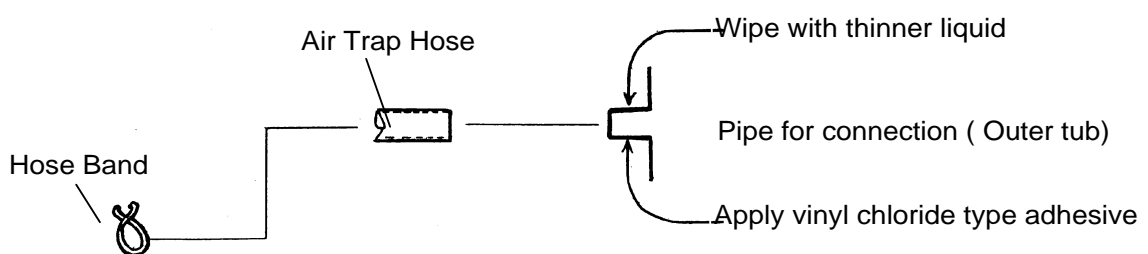
- The hooks of the washer lid will be broken if you remove the handle.  
When the handle is damaged, the Washer Lid Assembly containing the handle must be replaced.

#### ◆ **Removing Magnetic Valve**

- (1) Follow the steps (1) to (3) of “Replacing Back Plate”.
- (2) Move Soap Box Ass’y.
- (3) Remove two screws that are holding Pour Inlet Ass’y and Top Plate.
- (4) With a screwdriver (-), carefully remove the edges on both ends (left and right) of the Pour Inlet Ass’y and lift it up. Be careful not to scratch the Top Plate.
- (5) Remove three screws holding Magnetic Valve and Pour Inlet Ass’y.
- (6) Pull Magnetic Valve from Pour Inlet Ass’y.
- (7) Follow the above steps reversely when you want to assemble them again.

#### ◆ **Replacement of Air Trap Hose**

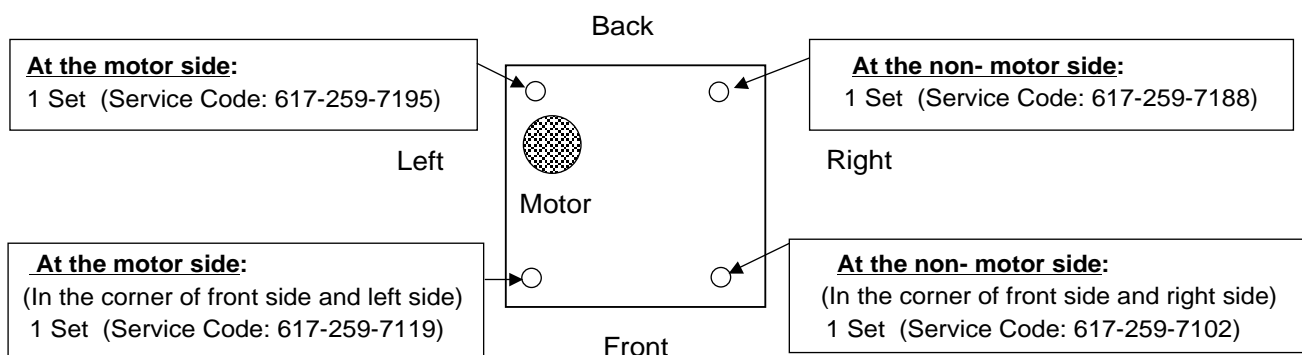
- (1) Remove Top Plate.
- (2) Pull out Air Trap Hose after making sure of no water in Outer Tub. If water remains in Outer Tub, pull Connection Wire of drain valve to drain by hand.
- (3) Wipe the surface which the hose will connect to with thinner liquid.
- (4) Apply vinyl chloride type adhesive to the surface of pipe and insert new hose into the pipe completely  
**Notice** : Do not cover the end of pipe by making a film of glue during glue application.
- (5) Fit Hose Band at the middle of the pipe.



### ◆ Replacement of Suspension Rod Ass'y:

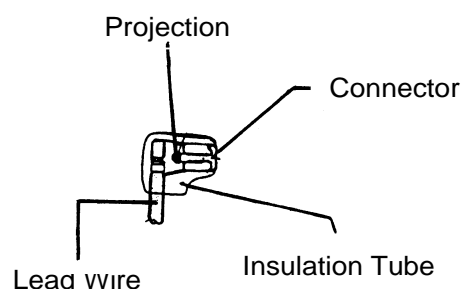
- (1) Remove the screws which are seemed on Top plate, follow the steps of "Replacing top plate".
- (2) Lay the washer down left or right suitably on the floor (It is necessary to have a soft cloth or blanket to protect the washer).
- (3) Remove the Top Plate.
- (4) From bottom of Outer Tub, push the Suspension Rod Ass'y up until it raises from suspension base.
- (5) After removing the Stopping Pin, pull out the Suspension Rod Ass'y from bottom of Frame.
- (6) Follow the steps above in the reverse order when you want to assemble them again with a new Suspension Rod Ass'y.

- When you have to replace a suspension rod complete, please replace the all of four Suspension Rod Assembly.
- There are four types of Suspension Rod Complete:

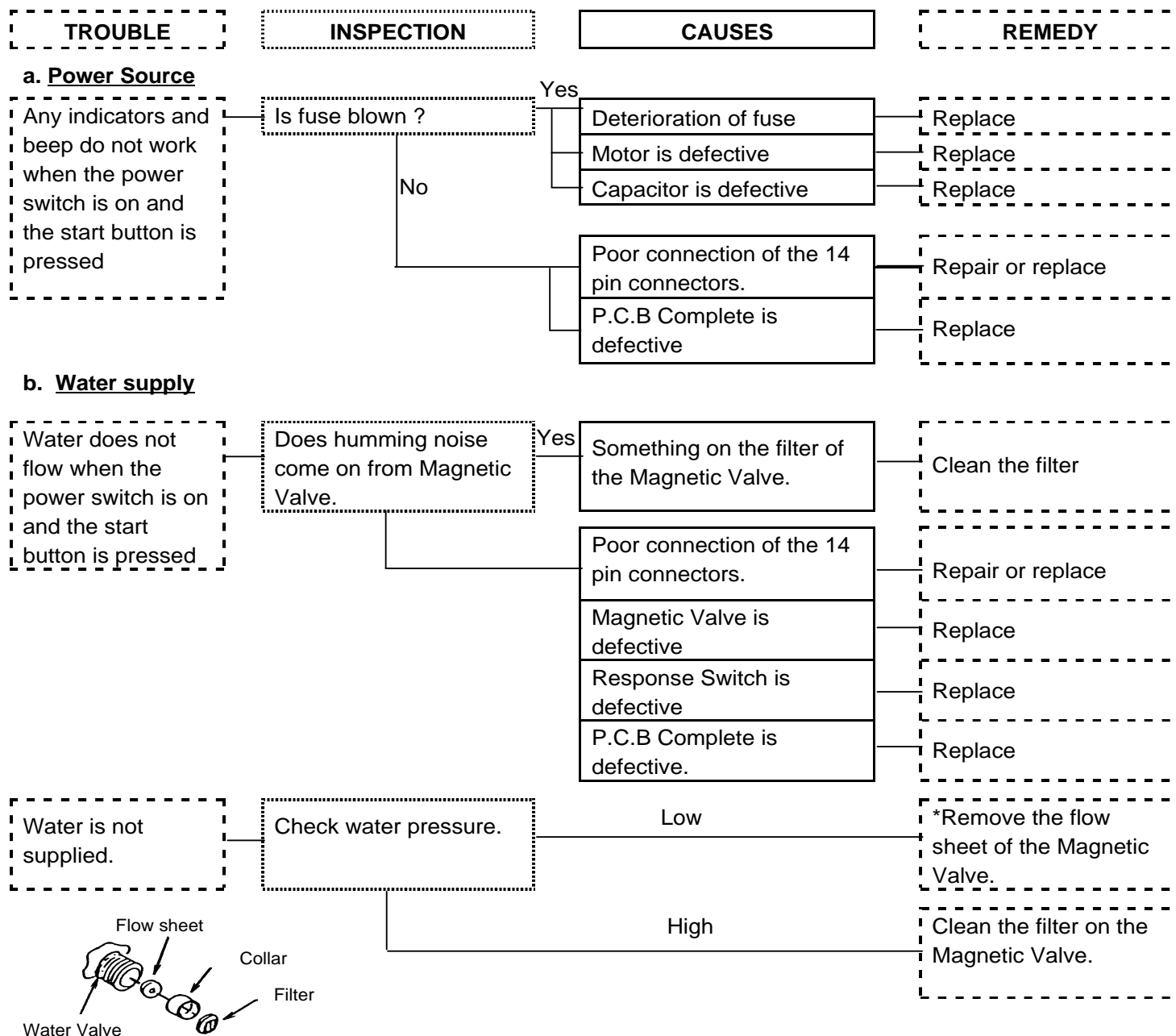


### ◆ Lead Wire connector for water supply Valve

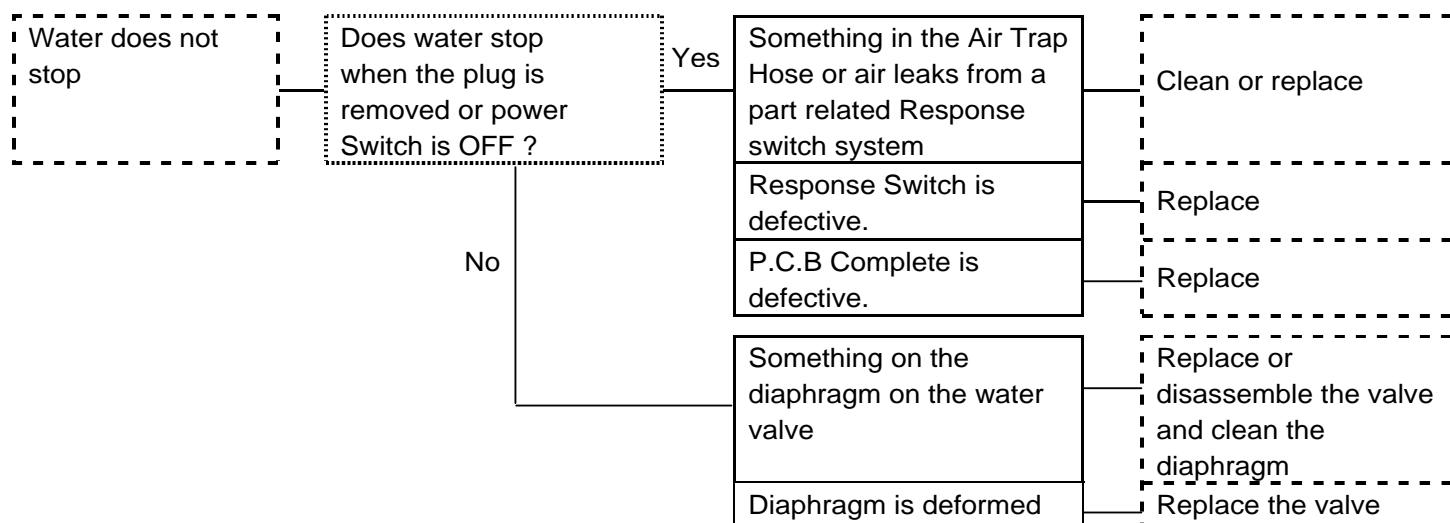
- (1) Move the insulation tube.
  - (2) To remove the connector from water supply valve, pull it while pressing the Projection in the middle with your nail to unlock.
- Do not pull it by force without unlocking, otherwise the Lead Wire may be torn off.
  - When reconnecting the Connector, make sure that it is locked firmly by pulling it slightly after connecting.
- (3) Fix the Insulation Tube.



## 12. Flow chart of trouble shooting

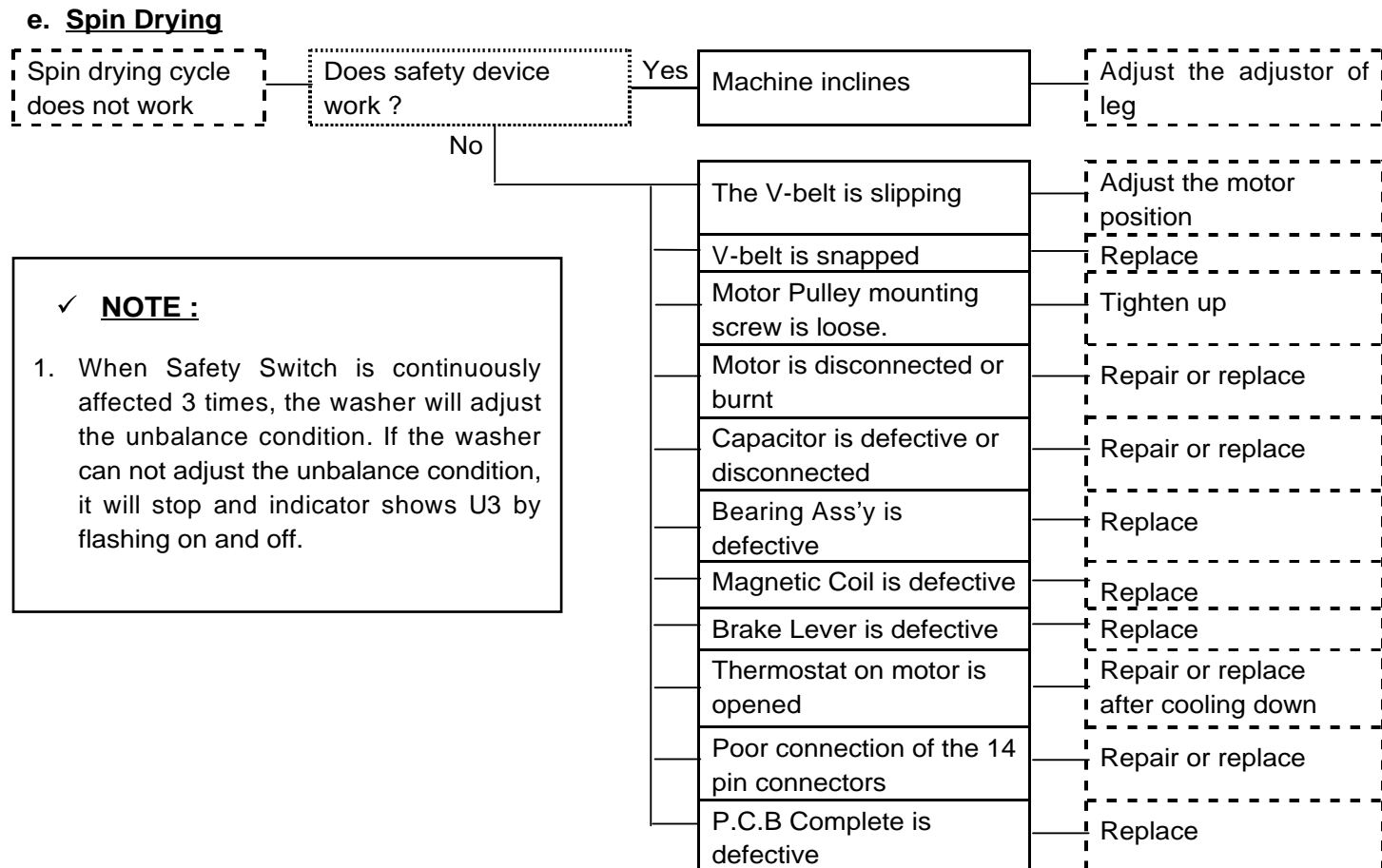
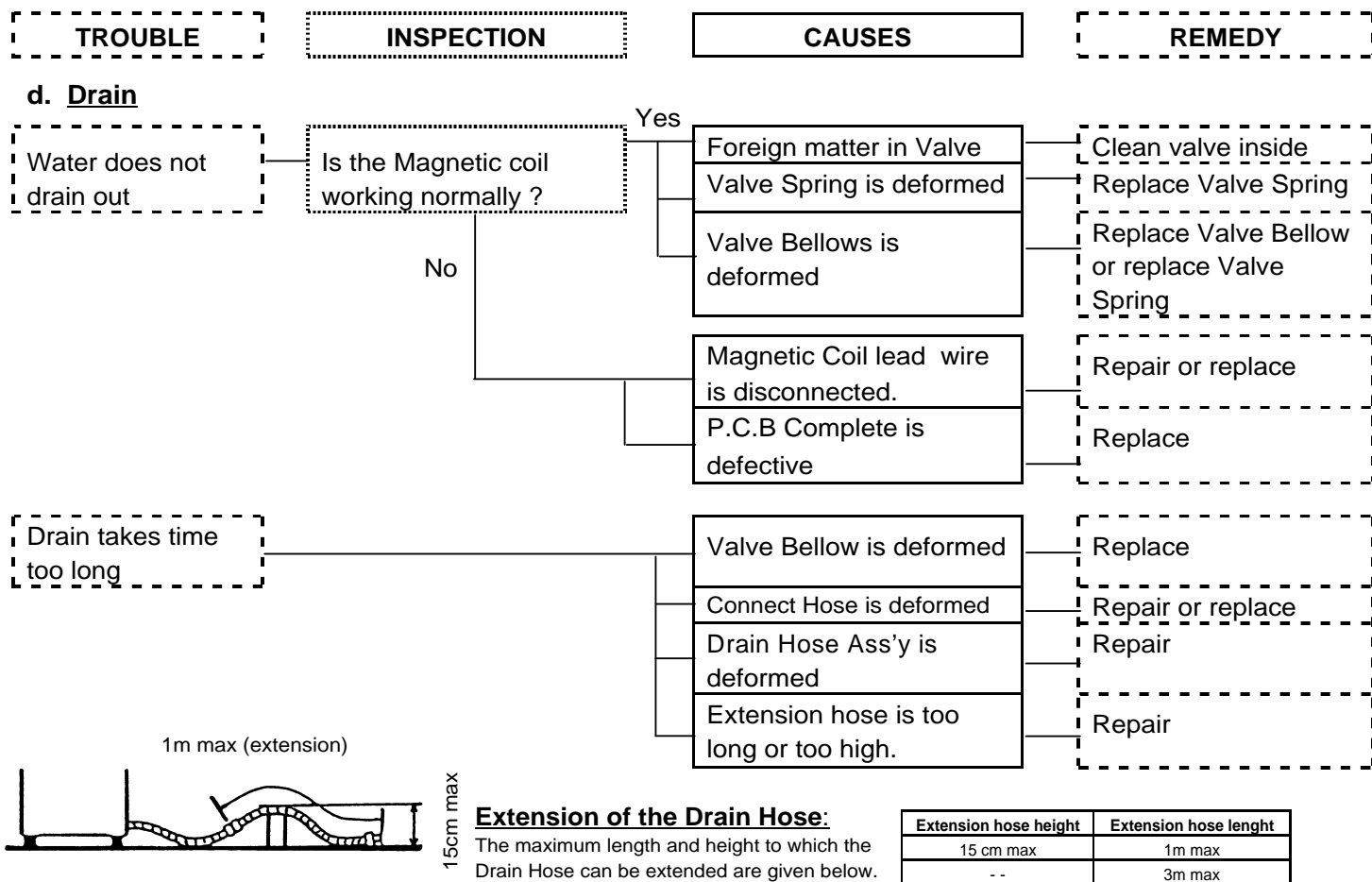


\* **Note:** when removing the flow sheet, reinstate the filter in place correctly.





TROUBLE	INSPECTION	CAUSES	REMEDY	
c. <u>Wash/ Rinse</u>				
Washing cycle does not start even if water keeps the selected water level.	Does the Spin Tub rotate normally when the SELECT button is set to SPIN ?	No	Bearing Ass'y is defective.	Replace
			Poor connection of the 14 pin connectors.	Replace
			Thermostat on motor is opened	Repair or replace after cooling down
			P.C.B Complete is defective.	Replace
	Yes			
	Does the Pulsator rotate by hand ?	No	Bearing Ass'y is defective	Replace
			Unnecessary materials lock pulsator operation.	Take out
	Yes			
	Does humming noise come on from motor ?	No	Motor wires are disconnected.	Repair or replace
			Capacitor's wires are disconnected.	Repair or replace
		Yes		
			Capacitor is defective	Replace
			Motor coil is shortened	Replace
The Spin Tub rotates together with the Pulsator during washing or rinsing cycle.	Is the Magnetic Coil working normally ?	Yes	Brake lining on Bearing Ass'y is worn out	Replace Bearing Ass'y
			Brake Lever Ass'y is defective.	Replace Bearing Ass'y
		No		
			Magnetic Coil is damaged.	Replace
	Does brake work normally ?	No	Brake lining is worn out	Replace Bearing Ass'y
			Brake Lever Ass'y is defective.	Replace Bearing Ass'y



TROUBLE	INSPECTION		CAUSES	REMEDY
f. <u>Buzzing and rattling</u>				
Buzzing/ rattling during water supply.	Is water pressure high (more than 10kg.f/ cm <sup>2</sup> ) ?	Low	Screw of Magnetic Valve is loose.	Tighten screws.
			Something in Magnetic Valve.	Replace.
		High	Faucet open too widely.	Adjust faucet turning.
Buzzing/ rattling during washing or rinsing.	Does some noise sound during spin drying?	Yes	V-Belt is slipping.	Adjust.
			Motor Pulley is loose.	Tighten up.
			Some parts touch motor	Repair or replace.
		No	Something underneath pulsator.	Remove.
			Pulsator is rubbed.	Adjust Bearing Ass'y
			Pulsator Shaft is burnt.	Replace Bearing Ass'y
Buzzing/ rattling during spin drying.	Is sound in low-pitched mono-tone ?		Bearing of Bearing Ass'y is defective.	Replace.
	Does variable sound happen by vibration ?		Machine is in unbalance.	Place machine evenly on base.
			Suspension Rod Ass'y is worn out.	Replace.
	Does noise sound when the washer begins to work ?		V-Belt is slipping.	Adjust.
	Is clattering on maximum rotation ?		Motor Pulley is loose.	Tighten up.
	Sound is flapping ?		Wire and/ or Air Trap Hose is loose.	Tighten.

### 13. Trouble shooting of Bearing Assembly (Bearing Case Complete)

**For Fully Automatic Washing Machines.**

#### 1. Abnormal (Squeaky) sound is heard during washing:

**Symptom:** The squeaky sound occurs when the brake system operates. During washing, the Pulsator turns CW (clockwise) and CCW (counterclockwise), producing water flow in the CW and CCW direction. The water flow exerts force on the Spin Tub in the same directions though interlocked with the Brake Wheel during washing. The Spin Tub turns a little if the friction with the brake lining reduces, generating braking sound. This symptom will not arise due to use of long duration but is entirely an initial fault.

**Diagnosis:** Turn off the power. Open the Washer Lid. Hold the Spin Tub and lightly turn it CW. If sound is heard from the brake, it is defective.

**Cause:** The cause can be limited to foreign substance (grease in particular) affixed to the surface of brake lining and brake wheel, which is attributed to poor quality control in the Bearing Assembly manufacturing process.

**Handling:** Replace the Bearing Case (complete) and wipe the Brake Wheel surface with alcohol.

#### 2. Spin tub stops sound (squeak):

**Symptom:** Squeaky sound is heard immediately before the Spin Tub stops.

**Cause:** This symptom often arises when friction factor between brake lining and brake wheel is too big. Therefore, this occurs when brake time is short, the cause of which is attributed mainly to the improponess of brake lining material, roughness of brake wheel surface and excessive strength of brake spring, but attachment of foreign matter and high humidity can also be responsible for the symptom.

**Diagnosis:** Allow water extraction program to complete automatically instead of forcibly, apply the brake, and listen for squeaky sound when the Spin Tub stops.

**Handling:** Replace the Bearing Case (complete) and wipe the Brake Wheel surface with alcohol.

#### 3. Brake does not work:

**Symptom:** Brake is applied when water extraction has completed, but the Spin Tub takes too long time to come to a complete stop.

**Cause:** Braking torque is too small, which is attributed to excessive abrasion of brake lining, attachment of foreign substance (grease in particular) on the surface of brake wheel and brake lining, etc..

**Diagnosis:** Taking approx 10 sec. of braking time, which is normally about 5 sec, can be determined to be defective.

**Handling:** Replace the Bearing Case (complete) and wipe the Brake Wheel surface with alcohol.

#### 4. Abrupt braking (When the Spin Tub stops, the entire machine moves):

**Symptom:** Brake is applied when the water extraction has complete, but the Spin Tub takes a very short time to come to a complete stop.

**Cause:** Braking torque is too big, which is attributed to abnormal shape of brake lining. This symptom occurs particularly when clearance between brake lining and brake wheel is too small at their tips.

**Diagnosis:** Taking only 2 or 3 sec. of braking time, which is normally about 5 sec at no load, can be determined to be defective.

**Handling:** Replace the Bearing Case (complete) and wipe the Brake Wheel surface with alcohol.

5. **Spin tub does not rotate (Spin Tub is locked):**

**Symptom:** Spin Tub does not rotate despite water extraction starting stage.

**Cause:** When it is caused by electric signals, water level sensor, Magnetic Coil, motor receptacle Housing Assembly, PCB Complete, Safety Switch, etc are likely to response. However, the troubles are mainly caused by related mechanical parts in this case. If this problem occurs, the clutch mechanism of Bearing Ass'y will fail. Especially, one-way bearing, which composes part of Bearing Case (complete), rusted by detergent penetrating is the main cause of the trouble. Insufficient transfer of rotation due to inaccurate dimensions of clutch spring also causes the trouble.

**Diagnosis:** Assuming that all electric parts are normal, check if the Spin Tub can be easily rotated by hand when the Magnetic Coil is in the state of pulling.

**Handling:** Replace the Bearing Case (complete) and wipe the Brake Wheel surface clean with alcohol, or replace the Clutch Spring.

6. **Water leakage:**

**Symptom:** Water leaks from somewhere around the Bearing Ass'y. Parts of the Bearing are sometimes seen rusted.

**Cause:** Oil seal lip lying on the top of ring (complete) is insufficiently fitted in the Outer Tub Bottom.

**Handling:** Replace the Bearing Ass'y.

7. **Click sound is heard during washing:**

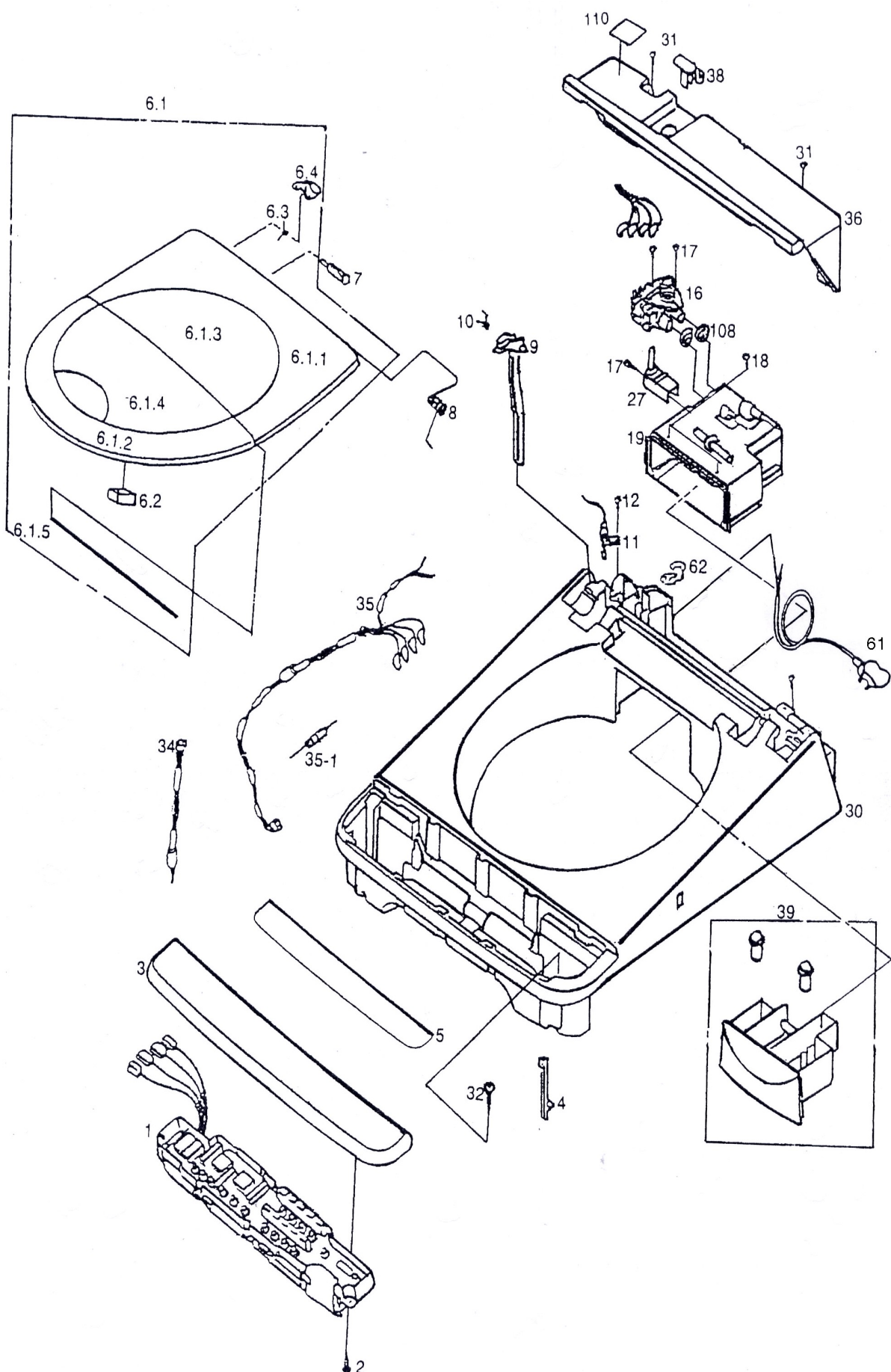
**Symptom:** Click sound is heard from the vicinity of the Bearing Ass'y. Similar sound can also be caused by a small metal piece, such as a coin or hair pin penetrating into the back of the Pulsator, damaging and making its rear ribs into flakes and resultantly generating sound. This will not be discussed here because there is nothing to do with the Bearing Ass'y.

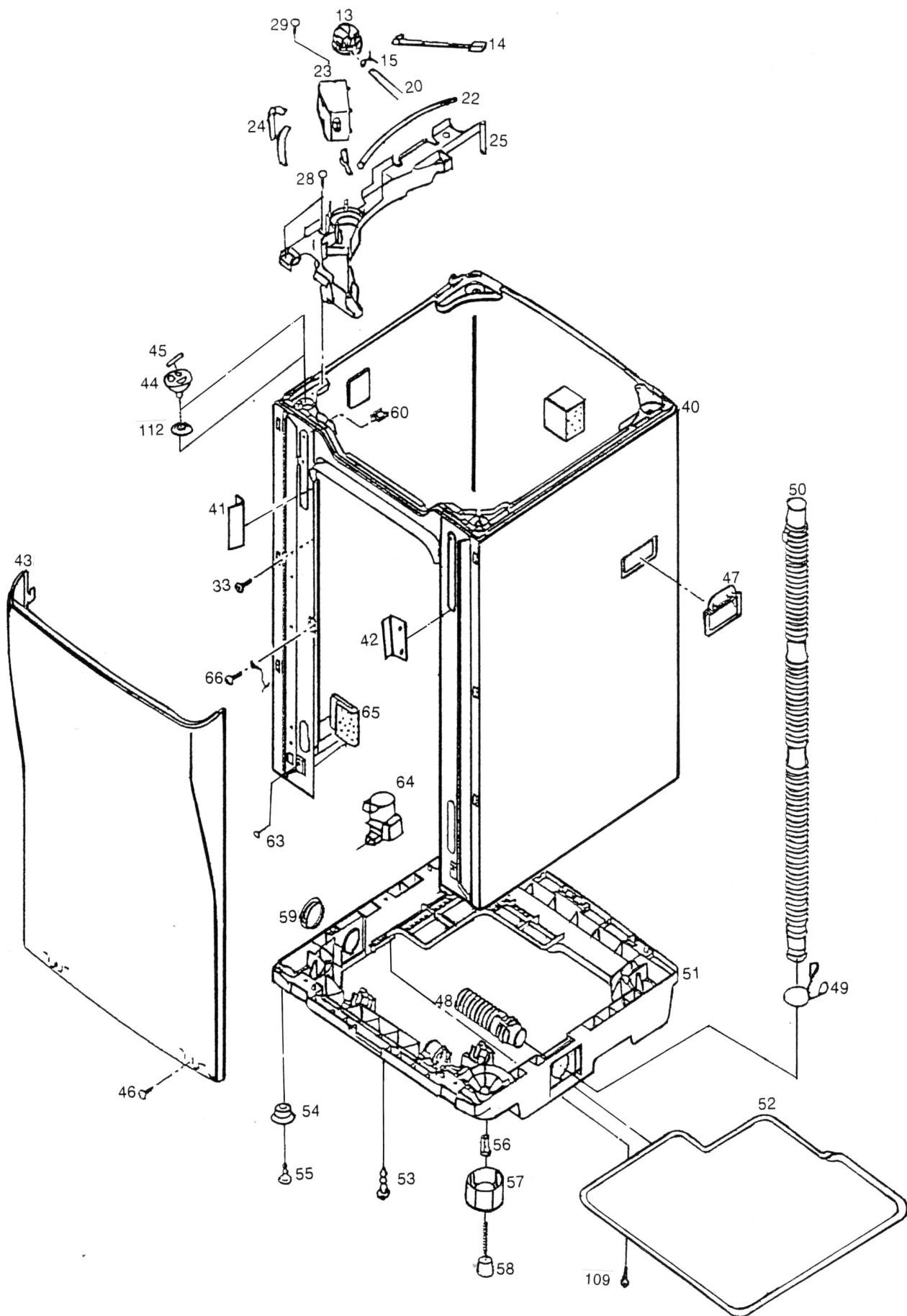
**Cause:** Infusion engagement of the Clutch Lever with the ratchet causes the lever to jump, making noises. In the washing process, the Clutch Lever is normally engaged with the ratchet completely, generating no sound.

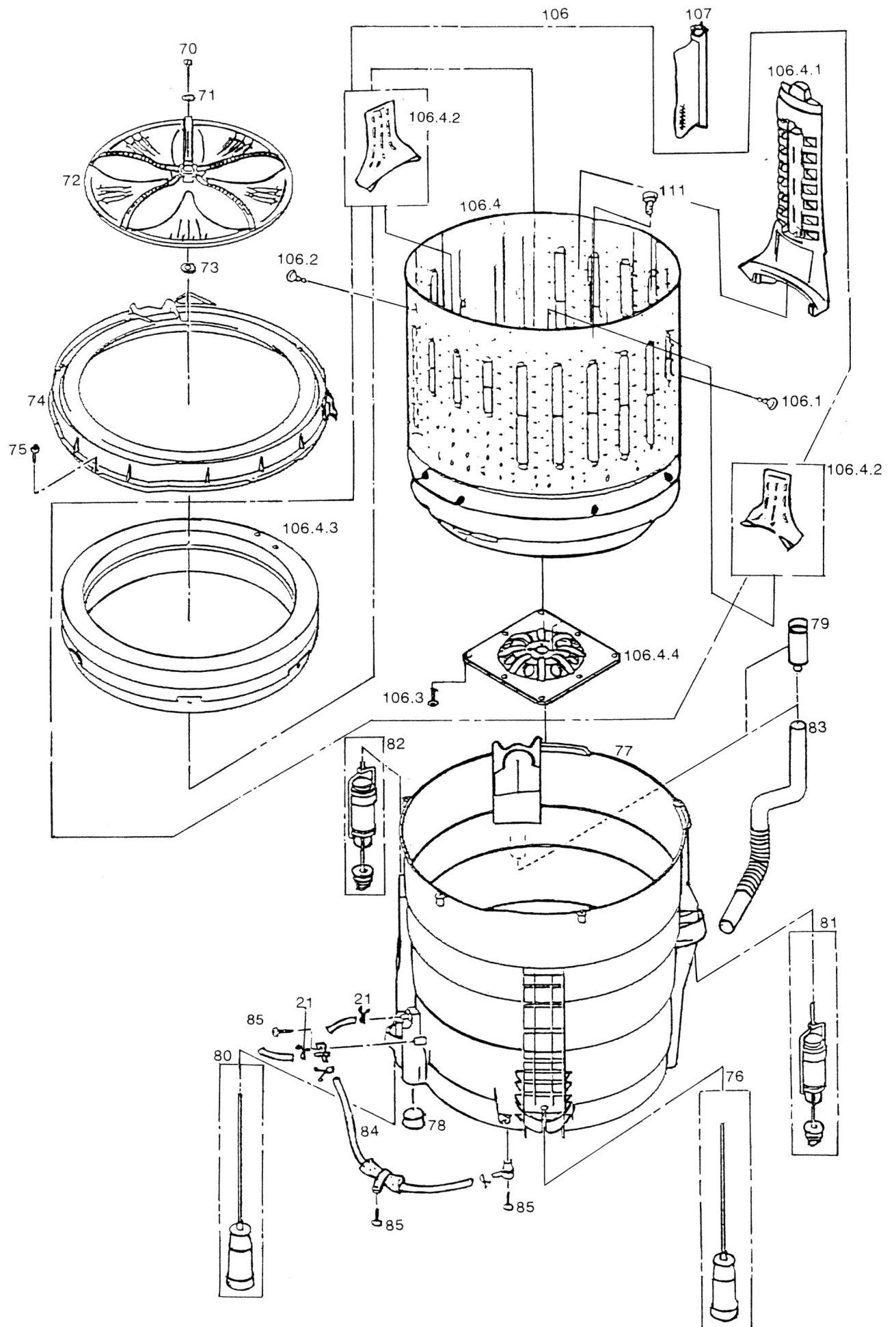
**Diagnosis:** Normally the clearance between the circumference of the ratchet and clutch lever is approximately 3 mm. In the event of this trouble, the clearance should be 5 to 6 mm.

**Handling:** Replace the Bearing Ass'y

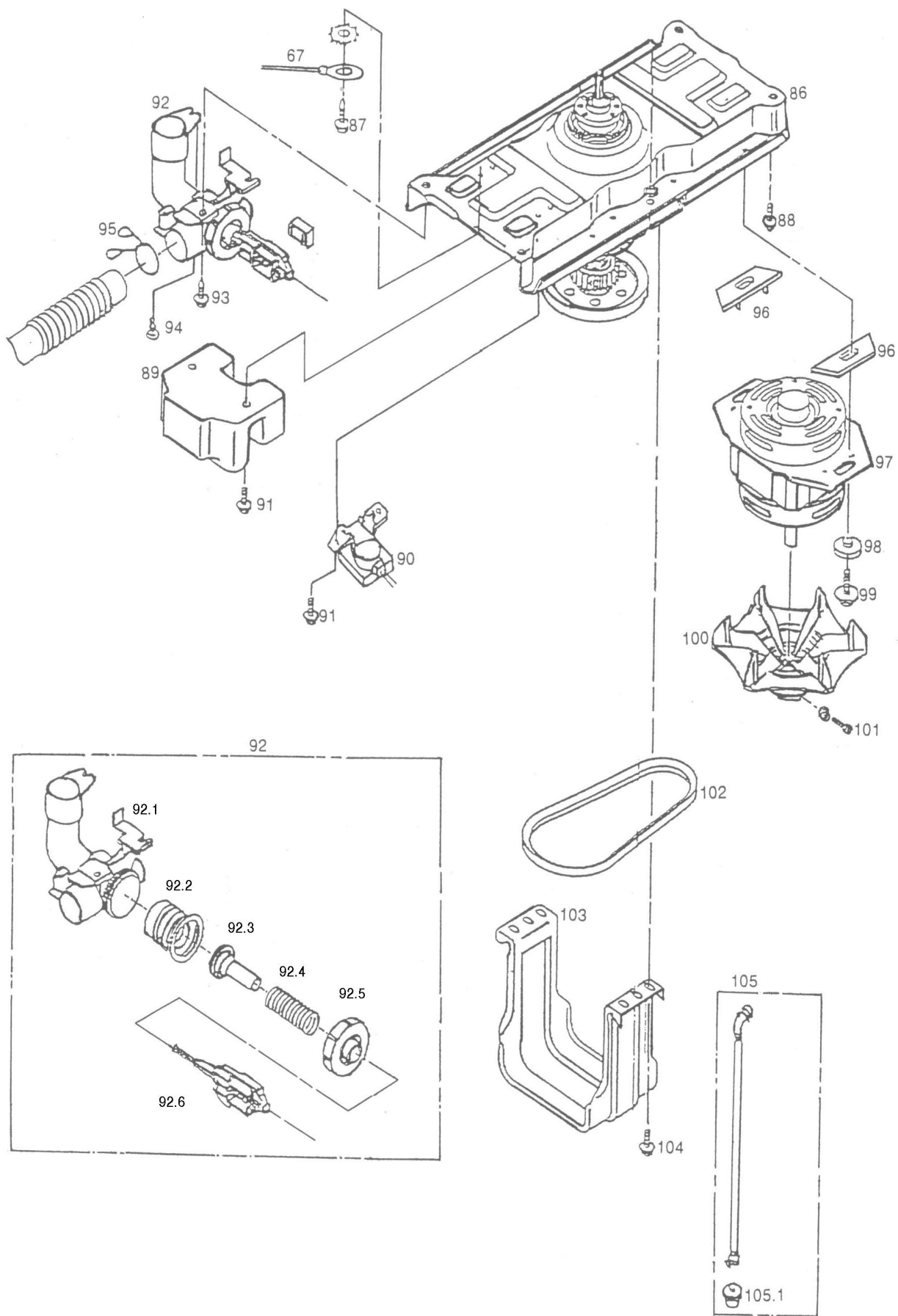
## 14. Exploded View











## 15. Part List

No.	Part Name	Service Code	Q'Ty	Specification
1	PCB Complete	617-260-0239	1	
2	SCR TPG TRS 4x16	411-007-5606	6	
3	Control Plate	617-263-5347	1	202N
4	Stopping Pin	617-226-9603	1	RED COLOUR
5	Membrane Plate	617-259-8970	1	PET
6.1	Washer Lid Ass'y	617-259-8161	1	
6.1.1	Washer Lid A	SER-SPC-0010	1	634N SILVER
6.1.2	Washer Lid B	SER-SPC-0012	1	634N SILVER
6.1.3	Lid Lens A	617-263-5392	1	293B BLUE
6.1.4	Lid Lens B	617-263-5385	1	293B BLUE
6.1.5	Hinge Shaft	617-259-8246	1	
6.2	Lid Cushion	617-160-4252	2	TPE
6.3	Lid Spring	617-175-0935	1	SUS-304 D1.0
6.4	Hinge Arm	617-221-7390	1	P.P TPC/ AR564
7	Hinge Shaft	617-250-0171	1	P.P POM
8	Hinge Spring	617-259-8253	1	SUS-304-WPA
9	Safety Lever	617-259-8987	1	POM
10	Safety Lever Spring	617-175-0508	1	
11	Switch	617-175-0485	1	KS-12-0
12	SCR TPG TRS 4x16	411-007-5606	1	
13	Response Switch	617-235-7263	1	KPS-59-C
14	Lead Wire Ass'y	617-245-6621	1	
15	Hose Band	617-148-4632	1	
16	Magnetic Valve	617-242-2084	1	JWV-203G
17	SCR TPG TRS 4x16	411-007-5606	3	
18	SCR TPG TPS 4x16	411-007-5606	2	
19	Pour Inlet Ass'y	617-245-4481	1	
20	Air Trap Hose	617-259-8994	1	
21	Hose Band	617-026-4921	2	
22	Hose joint Ass'y	617-259-9021	1	
23	Pump Ass'y	617-249-5514	1	ZH-208G-2
24	Cushion	617-263-5101	2	T2.0 EPDM
25	Cover	617-259-9052	1	P.P - AR564
27	Feed Valve Fixture	617-244-6134	1	P.P
28	SCR TPG TRS 4x12	411-074-5806	2	

No.	Part Name	Service Code	Q'Ty	Specification
30	Top Plate	617-259-9700	1	202N
31	SCR TPG TRS 4x12	411-074-5806	2	
32	SCR TPG TRS 4x20	411-007-1004	2	FIX TOP PLATE
33	SCR TPG TRS 4x10	411-074-5004	4	FIX FRAME ATTACH
34	Tab Housing Ass'y	617-245-6614	1	220-240V
35	Tab Housing Ass'y	617-250-2557	1	220-240V, M3 IEC
35.1	Fuse Ass'y	617-244-1061	1	
36	Back Plate	617-259-9731	1	202N
38	Sub Drain Cap	617-259-9779	1	P.P
39	Soap Box Ass'y	617-245-9219	1	
40	Frame Complete	617-259-6976	1	
41	Frame Attach	617-243-8061	1	PP. TPC AR564 (RIGHT)
42	Frame Attach	617-263-6672	1	PP. (LEFT)
43	Front Panel	617-259-7089	1	T0.5 (PCM)
44	Spring Damper Base	617-180-4676	4	P.P
45	Stopping Pin	617-261-0092	4	SUS-304-WPB D2.0
46	SCR TPG TRS 4x14	411-074-6605	2	
47	Frame Handle	617-262-7809	2	P.P NATURAL
48	Drain Hose Ass'y	617-252-5853	1	INNER
49	Hose Band	617-026-4891	1	
50	Drain Hose Ass'y	617-155-7879	1	OUTER
51	Leg	617-259-7096	1	AR564-COOL GRAY 10C
52	Bottom Cover	617-259-8345	1	P.P
53	SCR TPG TRS 4x14	411-074-6605	7	
54	Cushion	617-180-4423	3	
55	SCR TPG TRS 6x20	411-149-5106	3	
56	Adjustor Screw	617-180-4386	1	FRPP E-7000
57	Adjustor Cap	617-263-6955	1	COOL GRAY
58	Adjustor	617-183-6363	1	
59	Drain Cap	617-262-7830	1	PP COOL GRAY
60	Lead Stay	617-021-1413	1	
61	Cord Ass'y	617-231-4624	1	M3
62	Cord Stay	617-021-1338	1	NYLON
63	SCR TPG TRS 4x12	411-074-5806	1	
64	Capacitor Ass'y	617-230-3550	1	444V.AC 8.0MF
65	Sound Proof Board	617-025-3635	3	

No.	Part Name	Service Code	Q'Ty	Specification
66	Special Screw	617-029-0050	2	4x10
67	Lead Wire Ass'y	617-192-7962	1	
70	Pulsator Screw	617-026-9575	1	SUS-304
71	Pulsator Screw Washer	617-026-9636	1	SUS
72	Pulsator	617-259-7669	1	P.P AR564
73	Pulsator Washer	617-183-6431	1	SUS-430 T1.5
74	Outer Tub Cover	617-259-7645	1	P.P
75	SCR TPG TRS 4x16	411-007-5606	3	
76	Suspension Rod Ass'y	617-259-7102	1	FRONT-RIGHT
77	Outer Tub Drum	617-259-7584	1	P.P
78	Drain Pipe	617-180-4799	1	P.P
79	Overflow	617-262-2064	1	P.P
80	Suspension Rod Ass'y	617-259-7119	1	FRONT-LEFT
81	Suspension Rod Ass'y	617-259-7188	1	REAR-RIGHT
82	Suspension Rod Ass'y	617-259-7195	1	REAR-LEFT
83	Overflow Hose	617-262-2040	1	PE.
84	Hose Joint Ass'y	617-259-7539	1	
85	Special Screw	617-216-8159	3	
86	Bearing Ass'y	617-259-7812	1	
87	Special Screw	617-029-0050	2	4x10
88	Special Screw	617-029-0234	4	SWCH-18A
89	Balance Weight	617-141-6695	1	
90	Magnetic Coil	617-234-3990	1	KD-SW22LB 200-240V
91	Special Screw	617-028-9740	4	FIX MAGNETIC COIL
92	Valve Ass'y	617-262-9049	1	
92.1	Valve Case	617-262-2057	1	P.P
92.2	Valve Bellows	617-120-3950	1	EPT
92.3	Valve Shaft	617-259-7706	1	
92.4	Valve Spring	617-107-6585	1	
92.5	Valve Cap	617-026-6468	1	P.P
92.6	Connection Wire	617-262-4013	1	P.P
93	Special Screw	617-028-9733	2	FIX VALVE
94	SCR TPG TRS 4x16	411-007-5606	1	
95	Hose Band	617-183-6202	1	
96	Insulator Plate	617-180-5758	2	FR-PP E7000
97	Motor Complete	SER-CPC-0007	1	AM-V14JM

No.	Part Name	Service Code	Q'Ty	Specification
98	Insulator Plate	617-180-5734	2	FR-PP E7000
99	Special Screw	617-029-0180	2	
100	Motor Pulley	617-244-0248	1	ADC-12
101	Brake Wheel Screw Ass'y	617-015-6523	1	
102	V- Belt	617-114-6073	1	M-20
103	Motor Angle Holder	617-185-0260	1	SGCCO-Z08 T1.0
104	Special Screw	617-029-0241	4	SWCH-18A
105	Feed Hose Ass'y	617-253-1519	1	1.2M
105.1	Magic Joint Ass'y	617-186-1747	1	
106	Spin Tub Complete	617-259-7355	1	
106.1	SCR TPG TRS 4x10	411-074-5301	8	FIX CIRCULATE HOSE A&B
106.2	SCR TPG TRS 5x22	411-075-2507	6	FIX SPIN TUB TO BALANCE WEIGHT
106.3	SCR TPG TRS 5x22	411-075-2507	12	FIX SPIN TUB BOSS
106.4	Spin Tub Ass'y	617-259-7362	1	
106.4.1	Circulate Hose Ass'y A	617-259-7409	1	
106.4.2	Circulate Hose Ass'y B	617-259-7478	2	
106.4.3	Balance Weight Ass'y	617-259-7423	1	
106.4.4	Spin Tub Boss	SER-SPC-0016	1	
107	Lint Filter Ass'y	617-234-9282	1	NW-32
108	Packing	617-223-7039	2	EPDM
109	SCR TPG TRS 4x12	411-074-5806	1	
110	Notice Label	617-180-8599	1	
111	Special Screw	617-029-0227	4	
112	Rubber Damper	617-138-2235	4	



SANYO Electric Co., Ltd.  
Osaka, Japan